

Join the national conversation!



## Focus Words

intervention | phenomenon | priority | suspend | transmit

## Weekly Passage

Asthma is a respiratory illness that makes breathing difficult. Sometimes it is connected to plant and animal allergies. Asthma is not a contagious illness; it cannot be transmitted from person to person. Instead, asthma is a health condition that is triggered by environmental factors, such as indoor and outdoor pollutants that make the air dirty. But health experts are noticing a pattern. Asthma appears to be getting worse in low-income, urban areas, affecting more and more children who live there.

A study of rich and poor neighborhoods showed big differences in asthma rates. The low-income area of the Bronx in New York had high rates of asthma, 222 cases per 10,000 residents, while wealthier neighborhoods in Seattle had only 96 cases per 10,000. Factories, power plants, and other industrial facilities are major contributors to air pollution. Many poor residential communities are located near these industrial areas. Automobile emissions are another common cause of air pollution, and cities have more traffic than suburban areas.

Since widespread asthma is a public health phenomenon that is directly linked to pollution, many

people think something should be done to fix the problem. But who should pay for expensive clean-up efforts and other interventions to improve the air quality in homes, schools, and neighborhoods? Should factories be expected to clean up after themselves? Is the government responsible for making asthma prevention a priority? Will teaching people about the asthma problem help? Should operations in power plants be suspended until they lower their pollution levels? What do you recommend?

### TEACHER

Discussion questions:

- ▶ What are some of the causes of asthma?
- ▶ Asthma is more common in low-income, urban areas than in wealthier neighborhoods; what explains this phenomenon?
- ▶ What kind of interventions might reduce the high incidence of asthma in the population?
- ▶ Is the government responsible for making asthma prevention a priority, or should businesses and factories take responsibility?
- ▶ Is it possible to suspend activities that contribute to air pollution in our neighborhoods?

## Unit I.14 - Asthma: More than a medical problem?

### Focus Word Chart (teacher version)

Word	Meaning	Forms			Related Words
		Inflectional	Basic Word Classes	Prefixes/Suffixes	
intervention	(n.) – action intended to solve a problem	interventions	intervene (v.)		convene venue avenue advent
phenomenon	(n.) – event; occurrence	phenomena (pl.)		phenomenological phenomenal	
priority	priority (n.) – main concern	priorities	prior	prioritize	a priori
suspend	(v.) – to stop temporarily	suspends suspending suspended		suspension suspense	depend pending impending
transmit	(v.) – to pass on	transmits transmitting transmitted		transmittable transmission	remit submit admit omit permit commit

# Unit 1.14 - Asthma: More than a medical problem?

## Problem of the Week



There was a dramatic increase in the asthma rate in the 1980's and 1990's. More recently, 14% of children in the U.S. today have been diagnosed with asthma. Researchers have been working to understand this **phenomenon**. Asthma is a complicated illness. Unlike HIV or the common cold, it is not **transmitted** from person to person. Rather, doctors think a combination of genetic factors and environmental factors, like pollution, determine who gets asthma. Asthma attacks can be life-threatening, and treating asthma is expensive. For these reasons, some say fighting asthma should be a national **priority**. But how can we fight asthma? Realistically, we cannot **suspend** all activities that cause pollution. To plan effective **interventions** we need to know which groups are most affected. Here are some statistics.

- ▶ 17% of boys have been diagnosed with asthma, as compared to 11% of girls
- ▶ 18% of children from poor families have been diagnosed with asthma, as compared to 13% of children from non-poor families

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**Option 1:** According to these statistics, which of the following groups would you expect to have the highest asthma diagnosis rate?

- A) girls from poor families
- B) girls from non-poor families
- C) boys from non-poor families
- ☒ D) boys from poor families

**Option 2:** Two boys are chosen at random. According to the statistics given above, what is the likelihood that they both have asthma?

Answer:  $.17 \times .17 \approx .029$ , or about a 2.9% chance

**Math Discussion Question:** Childhood asthma places a real burden on families. An asthma attack is a frightening **phenomenon**. Normal life is **suspended** when a child suffers an attack, and helping the child breathe becomes the family's **priority**. Sometimes, using an inhaler helps relieve the symptoms. Other times, a more serious **intervention** is necessary, like a doctor visit or a hospital stay. Doctors and social workers try to **transmit** up-to-date medical knowledge to families to help them avoid asthma triggers, like mold, pollen, and cigarette smoke. Should families pay for all of these services themselves? What about families that can't afford to pay?

# Asthma: More than a medical problem?

## Debating the Issue



### 1. Get ready...

Pick one of these positions (or create your own).

**A** Factories are to blame for the high incidence of asthma in the cities. They should suspend their activities until they can find a way to reduce air pollution.

**B** The government should make preventing asthma a priority. They should pass laws that make it illegal for factories and automobiles to pollute the air with dangerous chemicals.

**C** Asthma is such a problem because there are too many cars in urban areas. Individual people should take responsibility for the problem by walking or riding bicycles instead of driving.

**D** There is no way to prevent asthma in urban areas. Air pollution will continue no matter what we do. We should make finding a cure a priority instead.

**E** \_\_\_\_\_  
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### 2. Get set...

Be ready to provide evidence to back up your position during your class discussion or debate. Jot down a few quick notes:

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# GO!

Be a strong participant by using phrases like these.

#### TEACHER

» Students should be able to connect to this topic on a personal level. It is likely that there are students in the class who have asthma or know someone with asthma. Help them to understand the scope of the problem by guiding them to generate ways that having asthma can negatively impact one's quality of life—for example, it can limit exercise and thus contribute to obesity; it can also cause sufferers to lose sleep or miss school.

» Some students may need help defining their position on the weekly topic. Here are some examples:

*...because...*

*I disagree with part of that...*

*An example might help convince me. Can you give me an example?*

*What part of the passage makes you think that?*

# Unit 1.14 - Asthma: More than a medical problem?

## Science Activity



This activity is designed to help you practice thinking like a scientist and to use this week's focus words. Sometimes the data are based on real research, but they should never be considered true or factual.

A highway is being built through Professor Kahn's town. She is worried about her two children. Their health is her biggest **priority**. It is a well-known **phenomenon** that kids who live near highways have higher rates of asthma.

Professor Kahn thinks that the government should **intervene** to **suspend** construction of the highway. She is writing a letter about her opinion, and will ask her state senator to **transmit** the letter to the governor. To show how highways affect local children, Professor Kahn did an experiment.

### Question:

Are children who live near major highways more likely to have asthma?

### Hypothesis:

Children who live near major highways will be more likely to have asthma.

### Materials:

- ▶ 100 kids who live near major highways
- ▶ 100 kids who don't live near a major highway

#### TEACHER

##### Real Research

-9.4% of children in the U.S. have asthma

Center for Disease Control. FastStats: Asthma. Retrieved on October 5, 2009 from <http://www.cdc.gov/nchs/fastats/asthma.htm>

-A five-year study by researchers at New York University concluded that asthma rates of 21 – 23% found in school-age children in the South Bronx could be attributed to traffic exhaust.

New York University Langone Medical Center. (2006, October 16). Asthma symptoms linked to soot particles. [Press release]. Retrieved on October 26, 2009 from <http://communications.med.nyu.edu/news/2006/asthma-symptoms-linked-soot-particles>

**Procedure:**

1. Find 100 kids who live near major highways.
2. Find 100 kids who do not live near a major highway.
3. Ask all 200 kids if they have asthma.
4. Calculate the percentage of children in each category who have asthma.

**Data:**

Location	Asthma Rate
Near Major Highways	20%
Far from Major Highways	6%

**Conclusion:**

Is the hypothesis supported or not by the data?

Supported

What evidence supports your conclusion?

Answer: The “Near Major Highways” population had a higher asthma rate than the “Far from Major Highways” population.

How would you make this a better experiment?

Encourage students to consider sample size, number of trials, control of variables, whether the procedure is a true measure of the question, whether the experiment can be repeated by other scientists, data collection and recording systems, and other potential explanations for the outcome. Students should understand that these simple experiments represent the beginning of an exploration, not the end. If time permits, have students suggest how the experiment could be strengthened, emphasizing the use of the target words in the discussion.



# Writing Prompt

What should be done to reduce the incidence of asthma in urban areas?

Support your position with clear reasons and specific examples. Try to use relevant words from the Word Generation list in your response.

## Focus Words

intervention | phenomenon | priority | suspend | transmit

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TEACHER

Ask students to write a response in which they argue a position on the weekly topic.

Put the writing prompt on the overhead projector (or the board) so that everyone can see it. Remind students to refer to the word lists in their Word Generation notebooks as needed.

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### A tool to help you think about your own writing!

Remember you can use focus words from any of the WG Units.

Check off what you accomplished:

#### Good Start

- ☐ Stated my own position
- ☐ Included 1 focus word

#### Pretty Good

- ☐ Stated my own position clearly
- ☐ Included 1-2 arguments
- ☐ Included 1-2 focus words

#### Exemplary

- ☐ Stated my own position clearly
- ☐ Included 1-2 arguments
- ☐ Included 1 counterargument
- ☐ Used 2-5 focus words

[illegible]